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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,275	12/15/2003	Michael Douglas Hill	8284D	3843

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EXAMINER

MOHAMEDULLA, SALEHA R

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/736,275

Applicant(s)

HILL ET AL.

Examiner

Saleha R. Mohamedulla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 011204.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Claims 1-8 are pending.

#### *Specification*

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 5,500,277 to Trakhan et al.

Trakhan teaches an endless belt and carries a web of cellulosic fibers from a forming wire to a drying apparatus, typically a heated drum, such as a Yankee drying drum. The belt 10 comprises a reinforcing structure 12 and a pattern layer 30. The reinforcing structure 12 is further comprised of at least two layers, a web facing first layer 16 and a machine facing second layer 18. Each layer 16, 18 of the reinforcing structure 12 is further comprised of interwoven machine direction yarns 120, 220 and cross-machine direction yarns 122, 222. The reinforcing structure 12 further comprises tie yarns 322 interwoven with the respective yarns 100 of the

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web facing layer 16 and the machine facing layer 18 (col. 5, lines 10-25). The second primary element of the belt 10 is the pattern layer 30. The pattern layer 30 is cast from a resin onto the top of the first layer 16 of the reinforcing structure 12. The pattern layer 30 penetrates the reinforcing structure 12 and is cured into any desired binary pattern by irradiating liquid resin with actinic radiation through a binary mask having opaque sections and transparent sections. The belt has two opposed surfaces, a web contacting surface 40 disposed on the outwardly facing surface of the pattern layer 30 and an opposed backside 42. (col. 5, lines 30-41). Therefore, Trakhan teaches providing a thin transparent material of substantially uniform thickness and forming a pattern of opaque regions in the material according to a predetermined first pattern.

The belt may further comprise conduits 44 that may be discrete, as shown, if an essentially continuous pattern layer 30 is selected. Alternatively, the pattern layer 30 can be discrete and the conduits 44 may be essentially continuous. Such an arrangement is easily envisioned by one skilled in the art as generally opposite that illustrated in FIG. 1. Of course, it will be recognized by one skilled in the art that any combination of discrete and continuous patterns may be selected as well (col. 5, lines 50-65). Therefore, Trakhan teaches that the opaque regions comprise a continuous or discrete pattern. The figure shows that the pattern layer and other regions form a non-random repeating pattern.

Trakhan teaches that opaque machine direction yarns 220 or cross-machine direction yarns 222 may be utilized to mask the portion of the reinforcing structure 12 between such machine direction yarns 220 and cross-machine direction yarns 222 and the backside 42 of the belt 10 to create a backside texture. The yarns 220, 222 of the second layer 18 may be made

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opaque by coating the outsides of such yarns 220, 222, adding fillers such as carbon black or titanium dioxide, etc. (col. 6, lines 10-30).

Trakhan teaches that actinic radiation does not pass through the yarns 220, 222 of the second layer 18 which are substantially opaque. This results in a backside texture on the machine facing surface of the second layer 18. The backside texture is registered with the yarns 220, 222 of the second layer 18 having the second opacity and which are substantially opaque to actinic radiation (col. 6, lines 28-35). Trakhan teaches that different yarns 100 of the belt 10 have a different opacity (col. 7, lines 1-5).

In addition, Trakhan also teaches that the pattern layer 30 extends from the backside 42 of the second layer 18 of the reinforcing structure 12, outwardly from and beyond the first layer 16 of the reinforcing structure 12. Some portions of the pattern layer 30 do not extend below particular yarns 220, 222 of the second layer 18 of the reinforcing structure 12. Therefore, Trakhan teaches that the mask has a first pattern of transparent regions and opaque regions. Because some portions of the layer 30 do not extend below particular yarns of the second layer, Trakhan teaches that the opaque regions comprise distal surfaces of the embossed areas.

In any embodiment, the machine direction and/or cross-machine direction yarns 220, 222 of the second layer 18 have a second opacity and/or second specific opacity, which are greater than the first opacity and/or first specific opacity, respectively, of the yarns 120, 122 of the first layer 16. Therefore, Trakhan teaches that the mask has a pattern of transparent and opaque regions, wherein the opaque regions comprise at least first opaque regions having a first opacity and second opaque regions having a second opacity different from the first opacity. The yarns 220, 222 of the second layer are substantially opaque to actinic radiation (col. 5, lines 50-60). It

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is more important that the first layer 16 have multiple and more closely spaced cross-machine direction yarns 122, to provide sufficient fiber support (col. 8, lines 1-5). The structure of Trakhan is used to emboss material according to the predetermined pattern of the structure. The fibers and yarns absorb ink and are used to imprint the transparent material with the ink.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US# 5,500,277 to Trakhan et al.

Trakhan teaches the limitations discussed above. Trakhan does not specifically teach that the opaque regions comprise a one-directional gradient opacity. However, Trakhan teaches that the local opacity may vary throughout a given cross section of the yarn 100 (col. 7, lines 5-10). Therefore, it is obvious to one of ordinary skill in the art that Trakhan envisions embodiments where the local opacity varies in one direction across the cross section of the yarn.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Saleha Mohamedulla whose telephone number is (571) 272-1387. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Saleha R. Mohamedulla

Patent Examiner

Technology Center 1700

August 23, 2004